Waymo v. Uber
Case No. 3:17-cv-00939-WHA

TRIAL EXHIBIT 5101

Uber Objections:

- Fed. R. Evid. 802 – This document contains inadmissible hearsay; namely, out of court statements made by Anthony Levandowski and documents and communications taken from Levandowski's devices, including text messages and file metadata listings, and other sources, such as his Dropbox account history. *See* Br. § III.

- Fed. R. Evid. 403 – Because the document is replete with embedded hearsay, the Court should exercise its discretion under Rule 403 to exclude any reliance on the document for its truth, to prevent jury confusion about what fragments are admissible for truth, and resulting waste of time and prejudice to Uber. *See* Br. § IV.

- Designated witnesses who received this document pre-litigation are: Eric Tate and John Gardner. The document therefore cannot be admitted for a non-hearsay purpose of notice to Uber or Ottomotto. *See* Br. § IV.

Yellow Highlights	Hearsay Statements

STROZ FRIEDBERG

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MORRISON & FOERSTER LLP:
PROJECT UNICORN

ANTHONY LEVANDOWSKI PRELIMINARY FORENSIC FINDINGS:
JULY 28, 2016

ES001:	MACBOOK LAPTOP	ES002:	IPHONE
ES003:	███████	ES004:	███████
ES005:	███████	ES006:	███████
ES007:	███████	ES008:	███████
ES009:	███████	ES010:	A@OT.TO
ES011:	A@OTTOMOTTO.COM	ES012:	███████
ES027:	PERSONAL DROPBOX ACCOUNT	ES031:	PERSONAL DROBO NAS
ES034	PERSONAL DESKTOP COMPUTER	ES045:	PERSONAL IPAD MINI
ES048:	PERSONAL IPAD 3	ES057:	NEXUS TABLET

Evidence Summary

#	Device Type	Device Name/Label	Date Received	Deleted Content	Data Copy/Transfer	Potentially Relevant Data found in Lab
ES001	Computer	MacBook Laptop	03/22/2016	Yes	Yes	Yes
ES002	Mobile Device	iPhone	03/22/2016	Yes	Yes	Yes
ES003	Webmail	███████	03/22/2016	N/A	N/A	No
ES004	Webmail	███████	03/22/2016	N/A	N/A	No
ES005	Webmail	███████	03/22/2016	N/A	N/A	No
ES006	Webmail	███████	03/22/2016	N/A	N/A	No
ES007	Webmail	███████	03/22/2016	N/A	N/A	No
ES008	Webmail	███████	03/22/2016	N/A	N/A	No
ES009	Webmail	███████	03/22/2016	N/A	N/A	No
ES010	Webmail	a@ot.to	03/22/2016	N/A	N/A	No
ES011	Webmail	a@ottomotto.com	03/22/2016	N/A	N/A	No
ES012	Webmail	███████	03/22/2016	N/A	N/A	No
ES027	Cloud Account	Dropbox Account	03/23/2016	Yes	Yes	Yes
ES031	Not Imaged	Drobo 2 NAS	03/23/2016	N/A	N/A	N/A
ES034	Computer	Desktop Computer	03/23/2016	No	No	No
ES045	Tablet	iPad Mini	03/23/2016	Yes	No	Yes
ES048	Tablet	Ipad 3	03/23/2016	Encrypted	Encrypted	Encrypted
ES057	Tablet	Asus Nexus	03/23/2016	Not Imaged	Not Imaged	Not Imaged
ES059-85	Servers	Levandowski Servers	03/30/2016	Not Imaged	Not Imaged	Not Imaged

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United States District Court
Northern District of California
Trial Exhibit 5101
Case No.___**3:17-cv-00939-WHA**___
Date Entered_____
By_____
Deputy Clerk

Levandowski provided Stroz Friedberg with 18 sources of media between March 22, 2016 and March 23, 2016. Each piece of media was preserved and returned to Levandowski except the following, which are being stored in Stroz Friedberg's evidence vault:

#	Device Name/Label	Imaged	Comments
ES001:	MacBook Pro laptop	Yes	
ES031:	Personal Drobo NAS	No	Contains zero data
ES034:	CoolerMaster Desktop	Yes	
ES045	iPad Mini	Yes	
ES048:	iPad 3	Yes	Data is encrypted
ES057:	Asus Nexus Tablet	No	Password not provided

On March 30, 2016, Stroz Friedberg arranged to have 27 desktops and/or servers collected from Levandowski's storage facility located at Nemo Building Systems 18231 Murphy Parkway, Lathrop, California. At the request of the Clients, Stroz Friedberg did not create a forensic image of these devices and continues to store these devices in its evidence vault.

Summary and Timeline of Key Findings

Levandowski stored and accessed Google files on his personal laptop. Other Potentially Relevant files were accessed and subsequently deleted between 09/01/15 and 03/22/16. He also used his iPhone 6S Plus to communicate with Ms. Morgan regarding Shred Works in addition to sending a reminder text to an unknown recipient to delete iMessages every night[1].

Levandowski indicated during his interview with Stroz Friedberg that he destroyed the five hard drives located within the Drobo2 storage device (ES031) and replaced those with new drives sometime in early March 2016. Evidence suggests that the Drobo2 device was last connected to the MacBook Pro (ES001) on 03/08/16 and was being used, in part, to create backups of his personal laptop.

Lastly, Levandowski emptied the Trash on his MacBook Pro while he was at Stroz Friedberg's office on 03/22/16 at approximately 12:12 PM.

Below is a timeline of relevant events identified through analysis of Levandowski's devices.

- ∞ 12-14-2015 – Approximately 24,000 Potentially Relevant files and folders were moved from a desktop folder to the Trash (ES001)
- ∞ 12-22-2015 –USB device labelled "8GB" erased using MacBook Pro laptop (ES001)
- ∞ 01-26-2016 – AL's last day at Google
- ∞ 01-26-2016 – "USB device labelled "280" erased using MacBook Pro laptop (ES001)
- ∞ 02-09-2016 – Approximately 20,000 items were moved to the Trash (ES001)
- ∞ 02-10-2016 – 160 GB of free space become available on the MacBook Pro laptop (ES001)
- ∞ 02-19-2016 – 8 GB SanDisk Cruzer erased using MacBook Pro laptop (ES001)

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[1] This message is deleted and the Recipient field is no longer populated.

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- ∞ 02-26-2016 – Text from Rhian *"I'm gonna go get your stuff destroyed this afternoon btw. ill send you a bill and a pic/video"* (deleted) (ES002)
- ∞ 03-01-2016 – Text from AL *"Ok good reminder to delete the iMessages every night"* (deleted) (ES002)
- ∞ 03-01-2016 – Text from Rhian *"i've been paying for shredding on my card, since it's not technically a business expense for OM. LMK if I should expense it or send you a bill instead ☺"* (deleted) (ES002)
- ∞ 03-01-2016 – Text from Rhian *"Ricardo, the shredder at ShredWorks, has a thing for these baby blues so he only charges me for about half the stuff they shred"* (deleted) (ES002)
- ∞ 03-08-2016 – Last known time the Drobo2 was connected to the MacBook Pro. (ES001)
- ∞ 03-13-2016 – Text from AL *"We're ready for junk King"* (deleted) (ES002)
- ∞ 03-22-2016 – Trash emptied (during the interview with Stroz Friedberg) (ES001)

Methodology

Stroz Friedberg analyzed each piece of media for evidence of:
1. data deletions or destruction;
2. file copy or transfer activity; and
3. the existence of Potentially Relevant content not sent to Relativity.

Stroz used several techniques to accomplish this depending on the media type. Below are some examples of the techniques used during its analysis.

All Devices

Potentially Relevant Data: Stroz harvested and processed millions of files into Relativity, an eDiscovery review platform. This data was reviewed separately for Potentially Relevant data. Files not processed into Relativity, such as source code and pictures, were reviewed manually outside of Relativity. Stroz also performed keyword searches across unallocated space (if applicable to the device) to identify any Potentially Relevant data.

Desktops and Laptops

Deleted Content Review: Stroz analyzed system logs, unallocated space, and other system artifacts to identify files that once existed on the device. This information was then compared to the active files on the device to identify files no longer active on the device.

File Copy or Transfer: Stroz analyzed system logs and other artifacts to identify the connection of external media and access to cloud repositories. Stroz then correlated that activity with other activity such as mass file access.

Mobile Devices

Deleted Content Review: Stroz analyzed databases and system artifacts to identify Potentially Relevant data.

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File Copy or Transfer: Stroz analyzed databases and system artifacts to identify access to cloud repositories and the existence of cloud storage apps.

Removable Media

Deleted Content Review: Stroz performed data carving across, and separately analyzed, unallocated space to identify files that may have once existed.

File Copy or Transfer: Stroz compared the serial numbers of each piece of media to those connected to in scope computers. Stroz then compared file and system metadata to determine if files were copied between the devices.

Device Level Findings

ES001: MacBook Pro

Summary of Deleted Content
Stroz identified four external devices were connected to this laptop and subsequently erased/formatted between 09/01/15 and 02/16/16. Below is a summary of those devices.

Timestamp (Pacific)	Size	Device Name	Volume Name	Serial Number
09/17/2015 23:09:36	130.2 MB	Unknown	"UNTITLED"	Unknown
12/22/2015 02:06:39	8.06 GB	Unknown	"8GB"	Unknown
01/26/2016 16:59:30	8.06 GB	Unknown	"280"	Unknown
02/19/2016 01:41:46	8.06 GB	SanDisk Cruzer Media	"UNTITLED"	0774700EACC0F75F

Stroz identified evidence of several deleted files and folders; specifically:
1. A folder titled "280";
2. 64 files in the folder titled "Otto";
3. Approximately 89,000 files and folders deleted between November 2015 and March 2016;
   a. Approximately 24,000 of which were located in the folder "/Users/anthony/Desktop/boards/chauffeur-svn/.svn", before they were moved to the Trash on or around 12/14/2015; and
4. Approximately 20,000 files were deleted between 02/08/2016 and 02/09/2016. A majority of those files were located in "_Source.sparsebundle" and "_Boards.sparsebundle"[2].

Stroz also identified evidence that the Trash folder was emptied on 03/22/16 around 12:12 PM, which is during Levandowski's interview with Stroz Friedberg.

Stroz identified evidence on or around 02/09/16 only 5.1 GB of free space was available on the laptop. The following day 165 GB of free space was available.

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[2] A sparsebundle is a disk image file used on Mac OSX and is used to store data.

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Stroz reviewed the unallocated space of the hard drive and found fragments of data related to Chauffeur. Most of these fragments are only text strings of newsletter, email, and notes and cannot be associated with a date or a specific file. Stroz compared these fragments to the active files on the computer. The information identified in unallocated space appears to be duplicative to active file information. No additional relevant evidence was found within the unallocated space.

Summary of Data Copy\Transfer
Stroz identified access to several cloud storage repositories including Slack, Egnyte, Google Drive, and Dropbox. Review of the internet history shows accesses to Google Docs on 01/27/16 at 15:55 (UTC); specifically, a file named "Chauffeur TL weekly updates - Q4 2015 - Google Sheets." Further review of the laptop identified a file named "Chauffeur TL weekly updates - Q4 2015.xlsx" in the user's Download folder; the file was created on 1/11/16 and was last accessed on 02/24/16[3]. The Slack team collaboration site titled "280systems" and "ottomotto" ware accessed on 01/12/16 and 03/10/16 respectively, but no additional information regarding this activity was identified.

Stroz identified evidence of files accessed from the laptop to the Drobo 2 storage device (ES031). Evidence suggests that the Drobo2 was used to back up the laptop; the most recent backup was dated 02/08/2016. Evidence suggests the Drobo 2 was last connected to the laptop on 03/08/2016. Below are examples of entries found within system artifacts indicating the dates of the backup folders that once existed on the Drobo2[4].

∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-08-22-144755
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-08-29-203418
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-09-05-152019
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-09-17-023213
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-09-22-091427
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-10-02-223222
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-10-10-170129
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-10-17-114831
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-11-06-080600
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-11-21-202000
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-12-08-095641
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-12-15-120320
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2015-12-27-091416
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2016-01-09-190411
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2016-01-13-211821
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2016-01-30-090832
∞   /Volumes/Drobo2/Backups.backupdb/Erica's MacBook/2016-02-08-133657

Summary of Potentially Relevant Data
Stroz Friedberg's forensic analysis identified Potentially Relevant data stored on this laptop. For example, we located 71 files within the users' Download folder that contain the word "Chauffeur" in the file name. Stroz also identified that the user synced his Google work email with the laptop and

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[3] The last accessed dates can reflect file interaction with a user or a system process. Stroz determined these timestamps to likely be the result of user interaction because they appear to be targeted access.

[4] The hostname for the MacBook Pro is labeled as "Erica's MacBook".

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approximately 50,000 messages were created on this computer on 09/20/14; 10 of which were last accessed between 09/01/15 and 01/28/16[5].

Stroz identified two pictures of chat messages dated 1/28/2016 in which Google employees informed Levandowski that they have decided to stay where they are. At the time of this report, these have not been processed into Relativity.

Stroz identified approximately 24,000 files and folders in the folder "/Users/anthony/Desktop/boards/chauffeur-svn/.svn" that were moved to the Trash on or around 12/14/2015. This information was found only within system artifacts; the files and folders themselves no longer reside on this device.

ES002: iPhone 6S Plus

Summary of Deleted Content
Stroz identified evidence of file deletion on this device. For example, there are approximately 1,300 deleted chat messages; the following table shows some messages that relate to data destruction.

Date (Pacific)	From	Body	Status
3/1/2016 2:58:58 PM	▮▮▮▮Anthony Levandowski	Ok good reminder to delete the iMessages every night	Deleted
2/26/2016 9:45:38 AM	▮▮▮▮Rhian Morgan	I'm gonna go get your stuff destroyed this afternoon btw. ill send you a bill and a pic/video☺	Deleted
3/1/2016 3:01:42 PM	▮▮▮▮Rhian Morgan	I've been paying for shredding on my card, since it's not technically a business expense for OM. LMK if I should expense it or send you a bill instead ☺	Deleted
3/1/2016 3:07:17 PM	▮▮▮▮Rhian Morgan	Ricardo, the shredder at ShredWorks, has a thing for these baby blues so he only charges me for about half the stuff they shred. ☺	Deleted
3/13/2016 4:44:21 PM	▮▮▮▮Anthony Levandowski	We're ready for junk King	Deleted

Summary of Data Copy\Transfer
Stroz identified the Dropbox application installed on this device, including 14 files cached in the Dropbox archive. These 14 files were reviewed and are not Potentially Relevant.
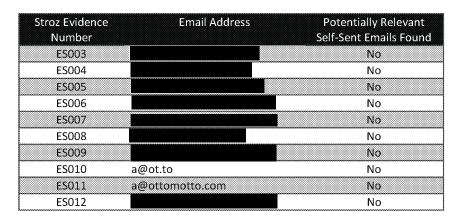### Summary of Potentially Relevant Data
Stroz Friedberg's forensic analysis identified Potentially Relevant data stored on this device (See Summary of Deleted Content).

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[5] The last accessed dates can reflect file interaction with a user or a system process. Stroz determined these timestamps to likely be the result of user interaction because they appear to be targeted access.

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Webmail Accounts

Summary of Potentially Relevant Data

Stroz has reviewed over a million files in Relativity as part of its on-going efforts to identify Potentially Relevant data. The following email accounts have been reviewed in their entirety as part of that review; the full details of that analysis will be summarized in our final report.

Stroz Evidence Number	Email Address	Potentially Relevant Self-Sent Emails Found
ES003	██████████████	No
ES004	█████████████	No
ES005	██████████████	No
ES006	███████████████	No
ES007	███████████████	No
ES008	███████████████	No
ES009	██████████████	No
ES010	a@ot.to	No
ES011	a@ottomotto.com	No
ES012	███████████████	No

ES027: Personal Dropbox Account

Summary of Deleted Content

Stroz reviewed the Dropbox event logs for evidence of file deletion and identified several entries indicating various users including Anthony Levandowski, Colin Sebern, and Suzanna Musick deleted data from this account between September 2015 and January 2016.

Summary of Data Copy\Transfer

This account is a file storage repository which may be used to share files with individuals who have been given access to specific files and folders. The general purpose of a Dropbox account is to store files that can be synchronized to and accessed from any device or a web browser.

Summary of Potentially Relevant Data

This account contains a folder titled "Chauffeur" which Levandowski identified as containing Potentially Relevant data. Stroz reviewed the Dropbox event logs and identified the following events related to Potentially Relevant data.

Date	Event
1/22/2015	2014 K1 - NEMO 1.jpeg Added
1/22/2015	2014 K1 - NEMO 2.jpeg Added
1/22/2015	2014 K1 - NEMO 3.jpeg Added
1/22/2015	2014 K1 - NEMO 4.jpeg Added
1/22/2015	2014 K1 - NEMO 5.jpeg Added
1/22/2015	2014 K1 - NEMO 6.jpeg Added
1/22/2015	2014 K1 - NEMO 7.jpeg Added

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Date	Event
1/22/2015	2014 K1 - NEMO cover.jpeg Added
10/3/2015	You added the file Google chauffeur press update.pdf.
10/8/2015	You added the file 2014_0624EVtransitToGoogle ...e2014.pdf.
10/30/2015	You added the file Flyer epc600_610 Evaluation ...- V1.4.pdf.
10/31/2015	In ASL-MR, you added the file google anthony ticket back.pdf.
10/31/2015	In ASL-MR, you added the file Google Anthony Ticket.pdf.
11/5/2015	You edited the folder AXA talk at Google.key.
11/5/2015	You edited the folder axa talk at google.key.
11/5/2015	You renamed the folder ExxonMobil Google copy.key to AXA talk at Google.key.
11/5/2015	You added the folder ExxonMobil Google copy.key.
12/2/2015	In ASL-MR, Suzanna Musick added 2014 K1 - NEMO 1.jpeg and 7 more files.
12/2/2015	In ASL-MR, Suzanna Musick renamed the folder 2014 K1 Nemo.
12/5/2015	You added the file Google lidars public disclosure.pdf.
12/21/2015	Test Report for HDL-64E S2 Laser Power Customer.pdf Added
12/21/2015	DSR, db.xml and Source Code Example Added
12/21/2015	In ASL-MR, you renamed the folder Topcon enclosure solidworks files.
1/9/2016	You moved the file SICK laser lms roadmap.pdf.
1/28/2016	In ASL-MR, Suzanna Musick edited the file Dogwood Furniture to NEMO...draft.xlsx.
1/29/2016	In ASL-MR, Suzanna Musick edited the file Dogwood Furniture to NEMO...draft.xlsx.
1/30/2016	You added the folder Truck setup.
11/15/2015-01/29/2016	225 events regarding Colin Sebern adding \deleting files to the account between 11/15/2015 and 01/29/2016 (mostly related to the 'mirrors' folder)

ES031: Drobo 2

Summary of Potentially Relevant Data

Stroz Friedberg analyzed the five 4 TB hard drives contained within this device; each of which had been wiped and contained absolutely no data. Specifically, Stroz Friedberg calculated the MD5 hash value[6] for each drive to confirm that they each contain all zeros.

ES034: Cooler Master Desktop

Summary of Deleted Content

Stroz Friedberg's forensic analysis of this device identified no evidence of mass file deletion or wiping.

Summary of Data Copy\Transfer

Stroz Friedberg's forensic analysis of this device identified no evidence of data copy or transfer.

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[6] MD5 is a widely used algorithm used to verify data integrity. It is known to be the digital fingerprint of a file or set of data.

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Summary of Potentially Relevant Data
Stroz Friedberg's forensic analysis of this device identified no Potentially Relevant data.

ES045: iPad Mini

Summary of Deleted Content
Stroz Friedberg's forensic analysis of this device identified several deleted Notes, which were sent to the Stroz Review Team for further review.

Summary of Data Copy\Transfer
Stroz Friedberg's forensic analysis of this device identified no evidence of data copy or transfer.

Summary of Potentially Relevant Data
Stroz Friedberg's forensic analysis of this device identified no Potentially Relevant data.

ES048: iPad 3

Stroz Friedberg identified that this device is encrypted and cannot be accessed without the iTunes backup password. Stroz attempted all passwords provided by Levandowski; however, none were capable of decrypting the device.

ES057: Asus Nexus Tablet

Stroz Friedberg identified that this device is locked and cannot be accessed. Levandowski informed Stroz that he does not remember the password for this device.

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